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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/574,029

04/18/2006

Alfred Pecher

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EXAMINER

DAVIS, OCTAVIA L

ART UNIT

PAPER NUMBER

2855

MAIL DATE

DELIVERY MODE

09/19/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/574,029	<b>Applicant(s)</b> PECHER ET AL.	
	<b>Examiner</b> OCTAVIA DAVIS	<b>Art Unit</b> 2855	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 8/4/08.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4 and 7-27 is/are allowed.
- 6) ☒ Claim(s) 5,6 and 28-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 5, 6 and 29 – 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa et al (6,948,856) in view of McIntosh et al (6,151,967) and Tward (4,433,580)

Regarding claims 5 and 29 - 31, Takizawa et al disclose a rolling bearing device and ring with a sensor for the rolling bearing device comprising a sensor element 11, conductive members 15b and electronic components 14, 16 connected to a flexible carrier material 2, 3, 11 (See Col. 6, lines 6 - 8 and 36 - 41 and Col. 10, lines 1 – 4) but does not disclose that the sensor element is a capacitor with at least two plate-like conductor areas which are opposite one another and thereby separated from one another by the flexible carrier material, the material being a dielectric between the conductor areas, the at least two conductor areas comprising a first conductor area and a second conductor area, the first conductor area being provided on an upper side of the carrier material and the second conductor area being arranged on an underside of the carrier material. However, McIntosh et al

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disclose a capacitive transducer comprising a capacitor 10 and conductors 12, 14 located on upper and lower sides of a dielectric 18, wherein the dielectric is a flexible electrically insulating material including glass and silicon (See claim 20, See Col. 12, lines 1 – 7). Tward discloses a pressure transducer comprising a sensor element 10 that is a capacitor with at least two plate-like conductor areas b', c', b'', c'' which are opposite one another and thereby separated from one another by a dielectric material such as glass 18, the material being located between the conductor areas, the at least two conductor areas comprising a first conductor area and a second conductor area, the first conductor area being provided on an upper side of the carrier material and the second conductor area being arranged on an underside of the carrier material.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was to modify Takizawa et al according to the teachings of McIntosh et al and Tward for the purposes of, advantageously providing capacitive transducers with more accurate and linear outputs over a wider dynamic range (See McIntosh et al) and advantageously and uniquely combining four capacitances into classic wheatstone bridge circuitry including an alternating current generator and current flow detection, measurement and value indicating circuitry (See Tward, Col. 2, lines 51 - 57).

Regarding claim 6, in Takizawa et al, the conductor areas 15b are capable of being elastically deformed (See Col. 10, lines 1- 8).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the

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subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa et al (6,948,856), McIntosh et al (967') and Tward (4,433,580), as applied to claims 5, 6 and 29 – 31 above, and further in view of McDearmon (2002/0092360 A1).

Regarding claim 28, Takizawa et al, McIntosh et al and Tward disclose all of the limitations of these claims except that the contacting elements is aligned perpendicularly in relation to the longitudinal and transverse extents of said carrier material in the manner of surface areas. However, in McDearmon, metallic foil resistance elements 74, 76 including legs 78 are bonded to the carrier 72 (See Pg. 3, Paragraph, 0038, lines 1 – 4 and Page 4, lines 1 - 22) and the carrier material 72 is a polymeric material (See Pg. 4, Paragraph 0038, lines 1 – 13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Takizawa et al, McIntosh et al and Tward according to the teachings of McDearmon for the purpose of, advantageously enabling the carrier to expand and contract with the housing (See McDearmon, Pg. 4, Paragraph 0038, lines 11 – 13).

### ***Response to Arguments***

6. Applicant's arguments with respect to these claims have been considered but are moot in view of the new grounds of rejection.

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***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Borchard (5,150,759) discloses a capacitor sensor.

Miller David G. et al (5,267,221) disclose a backing for an acoustic transducer array.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Octavia Davis whose telephone number is 571-272-2176. The examiner can normally be reached on Mon through Thurs from 9 to 5. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz, can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Edward Lefkowitz/

Supervisory Patent Examiner, Art Unit 2855

OD/2855

9/17/08

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